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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of)
Katsuhiko AOKI et al.)
Serial No. 09/112,020) Examiner: Edward F. Urban
Filed: July 8, 1998) Group Art Unit: 274
For: MOBILE COMMUNICATION) August 8, 2000
TERMINAL EQUIPMENT USABLE)
FOR BOTH SATELLITE AND)
TERRESTRIAL COMMUNICATIONS)

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TRANSMITTAL OF APPEAL BRIEF

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Enclosed in connection with the above-referenced application is an Appeal Brief with Appendix in triplicate. Please charge the fee for filing a brief in support of a notice of appeal in the amount of \$300.00 to our Deposit Account No. 02-2135. A duplicate copy of this sheet is enclosed.

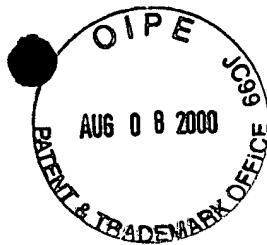
Also, please charge any additional fees or credit any overpayment to our deposit account.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of)	BEFORE THE BOARD OF PATENT
)	APPEALS AND INTERFERENCES
Katsuhiko AOKI et al.)	
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BRIEF ON APPEAL

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

This is an appeal from the final rejection of claims 19-26 of the above-identified reissue application, which claims were finally rejected in the Office Action dated February 11, 2000. A Notice of Appeal was timely filed on June 8, 2000.

REAL PARTY IN INTEREST

The real party in interest in this case is Mitsubishi Denki Kabushiki Kaisha.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the present appeal.

STATUS OF THE CLAIMS

Claims 1-26 are pending in the application. Claims 1-18 stand allowed by the Examiner, and are the subject of U.S. Patent No. 5,535,430 of which the present application is a reissue. Claims 19 and 23 are the sole independent claims on appeal. Claims 19-26 stand rejected under 35 U.S.C. § 112, first paragraph, and under § 103(a). This appeal is directed to claims 19-26.

STATUS OF AMENDMENTS

No proposed amendment after final rejection has been filed in this application.

SUMMARY OF THE INVENTION

The present invention relates generally to the field of wireless or mobile communications, and in particular to mobile communication equipment which allows a user to carry on communications using either a satellite communication network or a terrestrial (e.g. cellular) communication network.

Terrestrial mobile communication systems use a network of installed base stations which enable radio communications to be carried out between mobile communication devices (or terminals), such as mobile or cellular telephones, and between mobile

communication devices and conventional land line wired telephone sets, which communicate with each other through the base stations, and the Public Switched Telephone Network (PSTN), respectively. Because of economic considerations, base stations will not be installed in geographic regions of less than a predetermined population density, or remote areas such as mountainous regions or unpopulated regions. Consequently, mobile telephone subscribers venturing into such regions will not be able to use their mobile communication devices and risk being cut off from communications with the outside world.

In response to the need for communication capability in such areas, satellite communication systems have been developed wherein a satellite communication terminal device carries out communications with other communication devices, including mobile communication devices as well as land line telephones, through one or more communication satellites deployed in orbit around the earth. Use of satellite communication systems is notoriously expensive, and thus typically is not used where cheaper methods of communication are available. For mobile users venturing into areas where terrestrial communication systems are unavailable, however, the existence of satellite communications capability is important, and can be life-saving.

Prior to the present invention, if a user wished to have the capability of carrying on communications through either a

wireless terrestrial communication system or a satellite communication system, the user had to carry with her both a mobile satellite communication device as well as a terrestrial mobile communication device. Alternatively, prior art systems were known which integrated into one unit both a satellite communication system and a mobile terrestrial communication system. Such integrated systems are bulky and inconvenient to use.

The present invention provides mobile communication terminal equipment which enables a user to carry out wireless communications through a satellite communication system as well as through a wireless terrestrial communication system. As shown in Fig. 7 and described at col. 16, line 33 to col. 18, line 7, a satellite transceiver circuit 5A includes a satellite communication signal transmission/reception circuit 6-8 for transmitting and receiving satellite communication signals, and further includes a portable handset 24 which includes a terrestrial transmission/reception circuit 14-15 for transmitting and receiving terrestrial wireless communication signals. The handset 24 further includes a signal input/output circuit (18-22) for interfacing with a user, and a connection controller (16) and switching means (26-28) for selectively connecting the input/output circuit to the terrestrial transmission/reception circuit when the handset 24 is disconnected from the satellite

transceiver, and to one of the terrestrial transmission/reception circuit or the satellite transmission/reception circuit when the handset is connected to the satellite transceiver.

According to this aspect of the invention, the structure of a satellite communication system can be reduced, by using the signal input/output circuit of a portable handset connectable to the satellite transceiver, while the portable handset includes all components needed to carry out terrestrial wireless communications with a terrestrial mobile communication system. Consequently, a user is able to use the portable handset 24 even when it is disconnected from the satellite transceiver.

ISSUES

This appeal presents the following issues for decision by the Board:

1) Whether claims 19-26 are unsupported by an adequate written description under the first paragraph of 35 U.S.C. § 112 and are properly rejected on that basis; and

2) Whether claims 19-26 are obvious over Wiedeman, U.S. Patent No. 5,303,286, in view of Japanese Laid-Open Publication No. 4-123534 under 35 U.S.C. § 103 and are properly rejected on that basis.

GROUPING OF CLAIMS

Claim 19-26 stand or fall together and will not be separately argued in the brief.

ARGUMENT

The Rejection of Claims 19-26 Under 35 U.S.C. § 112 Is Improper

Claims 19-26 stand rejected under the first paragraph of 35 U.S.C. § 112 (the final Office action contains an apparent typographical error, repeated from the first Office action, in stating that claims "1-26" stand rejected, since claims 1-18 stand allowed) as allegedly being unsupported by an adequate written description. The Examiner asserts that the specification defines the mobile communication equipment as being mounted in a vehicle, while the new claims encompass mobile communication equipment wherein the satellite transceiver is portable. This ground of rejection is improper and should be reversed, for the following reasons.

First, claims 19-26 do not require that the satellite transceiver be portable, but to the contrary simply do not require the satellite transceiver to be mountable in a vehicle. Claims 19-26 thus are fully supported by the written description in the specification as filed. As stated in the inventors' declaration in support of reissue, the invention is not limited to vehicle-mounted devices, but is equally applicable to devices that are provided in a stand-alone configuration.

Second, the specification does not describe a satellite transceiver mounted in a vehicle as asserted in the Office action, but rather describes a satellite transceiver that is

mountable in a vehicle. Note col. 2, ll. 38-40; col. 3, ll. 30-32; col. 12, ¶ 8 ("transceiver unit 3 may be disposed within the interior of the vehicle M"). As understood in its ordinary meaning, a transceiver that is mountable in a vehicle is one that can be or is capable of being mounted in a vehicle, and does not exclude a stand alone or portable unit (which also are "mountable" in a vehicle).

Third, according to a third aspect of the invention as disclosed at column 4 of the patent, a plurality of communication terminals are provided wherein a first group of the terminal equipment has a function of a satellite wireless mobile station. This aspect of the invention as originally disclosed clearly is not dependent upon being mounted in a vehicle.

Fourth, one of the stated objectives of the invention is to reduce the size of the satellite transceiver, which one of ordinary skill in the art would recognize as not being limited to a transceiver mounted in a vehicle.

The analysis in the final rejection with respect to the written description requirement of § 112 is incorrect. The written description requirement determines simply whether those skilled in the art would have recognized from the original specification whether the applicant was in possession of the later claimed invention. Gentry Gallery, Inc. v. Berkline Corp., 134 F.3d 1473, 45 USPQ 2d 1498 (Fed. Cir. 1998). An applicant

complies with the written description requirement "by describing the invention, with all its claimed limitations." Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572, 41 USPQ 2d 1961, 1966 (Fed. Cir. 1997).

The written description analysis does not involve a determination, as made in the final rejection, of whether the claims may be interpreted to encompass an embodiment not explicitly described in the specification. There is no question in the present case that those skilled in the art would have recognized that appellants were in possession of the invention set forth in claims 19-26 at the time the original specification was prepared and filed. Contrary to the Examiner's position in the final Office action, later added claims need not be limited to the specifics of the disclosed embodiments in order to satisfy the written description requirement under 35 U.S.C. § 112.

For all of the foregoing reasons, claims 19-26 are submitted to be completely supported by the original written description in the specification as filed, and withdrawal of this ground of rejection is requested.

The Rejection of Claims 19-26 Under 35 U.S.C. § 103 Is Improper

Claims 19-26 are further rejected as being unpatentable over Wiedeman in view of Japanese Laid-Open Patent Publication 4-123534 ("the '534 reference"). This rejection also is improper and should be reversed, for the following reasons.

Wiedeman discloses an integrated terrestrial cellular/satellite communication system, wherein cellular satellite telephones 501, 502 (see Fig. 4) include a cellular telephone (503, 504) with associated antenna (505, 506) for communicating with a terrestrial cellular telephone system (102), and also include a satellite control unit (530, 531) with associated RF converter (520, 521) and antenna (522, 523) for communicating with a communication satellite (301, 302) of a satellite communication system.

Wiedeman discloses that the cellular satellite telephone communicates with the satellite system when the user notifies the system that the user desires to be placed in a database of roaming users and that the user will be exiting the service area of a terrestrial system (see col. 6, ll. 6-14).

The Office action asserts that it would have been obvious to apply the "portable unit communication technique" allegedly disclosed in the '534 reference to the system of Wiedeman "for the purpose of allowing the phone to be more compact when only communicating with a particular local system."

Fig. 5 of the '534 reference shows a communication device having a disconnectable portable set. The individual mover 102 includes a terrestrial mover section and the basic mover 100 includes a combination of a satellite mover section and a controller. The basic mover or a telephone 154 is described as

being connected to the connection connector 122 of the individual mover 102 (see English translation page 8, ll. 11-15). When the individual mover 102 is attached to the basic mover 100, either terrestrial or satellite communication can be selected. When individual mover 102 is disconnected from basic mover 100, only satellite communication can be used. In this case, terrestrial communication is possible by connecting telephone set 154 to the disconnected individual mover 102.

In the '534 reference, the switch for switching between the terrestrial and satellite system is provided on the satellite side. Satellite communication is carried out with a satellite located at an altitude of greater than 1000 km, while terrestrial communication is carried out with a base station usually located only a few kilometers away from the mobile equipment. Satellite communication thus requires greater transmission power and a larger antenna, which inevitably increases the size of the device.

According to the present invention, the input/output circuit and the switching means are provided on the terrestrial side of the system, which reduces the size of the satellite device side of the system. Further, if terrestrial communication is desired after the individual mover 102 is disconnected, the telephone set 154 must be reconnected to the individual mover 102. In contrast, according to the claimed invention of the present

application, the signal input/output circuit is provided on the terrestrial side and does not require reconnection when terrestrial communication is desired. The present invention provides a convenient structure that is reduced in size and can be easily used to communicate using a terrestrial system by disconnecting the terrestrial side of the system where terrestrial communication is possible.

The '534 device, on the other hand, fails to provide such a feature since it includes signal input/output circuitry and switching connected to the satellite side of the system. In this regard, the claimed invention provides a significant improvement to the prior art, that is not disclosed or even recognized in the '534 reference; and as such, even if the '534 reference were to be combined with Wiedeman, the resultant device still would fail to have the signal input/output and connection controller features set forth in the present claims.

The final rejection argues that the '534 reference "teaches" that a portable device can have two separate housings, one for terrestrial communication and one for satellite communication, which can be disconnectable. The final rejection ignores completely the explanation that even if the relevant teaching of the '534 reference were to be combined with Wiedeman, there would exist no teaching to provide the input/output circuit and switching means on the terrestrial side of the equipment.

Moreover, one of ordinary skill in the art would not have attempted to modify the wireless satellite cellular telephone of Wiedeman to make the terrestrial cellular telephone disconnectable from the satellite transceiver, as proposed in the final rejection. The Wiedeman system is intended to be used as a roaming system for a terrestrial cellular user who travels into an area not served by any terrestrial system. In other words, the user of the Wiedeman system is a terrestrial communication system subscriber. Thus, if the cellular telephone were disconnected from the satellite control unit, the entire purpose of the Wiedeman system would be defeated, in that the user would not be able to inform the service provider that the user wishes to be placed in a database of roaming users and that the user will be exiting the service area of a terrestrial system. This fact precludes such a modification from being obvious within the meaning of 35 U.S.C. § 103. This point of argument does not depend on which piece of prior art is attempted to be combined with the Wiedeman disclosure. It is well established that a proposed modification of a prior art reference is not "obvious" under 35 U.S.C. § 103 if the modification would destroy or eliminate the fundamental functionality or purpose described in that prior art reference.

In view of the foregoing, claims 19-26 are respectfully submitted to define subject matter that is patentable over the

prior art of record, whether considered individually or in combination.

CONCLUSION

In view of the foregoing, claims 19-26 are submitted to be directed to a new and unobvious mobile communication terminal for satellite and terrestrial wireless communications, which is not taught by the prior art, and which is fully supported by the original specification as filed. The Honorable Board is respectfully requested to reverse all grounds of rejection and to direct the passage of this application to issue.

Please charge any fee or credit any overpayment pursuant to 37 CFR 1.16 or 1.17 to Deposit Account No. 02-2135.

Respectfully submitted,

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APPENDIX OF CLAIMS ON APPEAL

19. A mobile communication terminal equipment comprising:
a satellite transceiver including a satellite
transmission/reception circuit for transmitting and receiving
signals through a satellite wireless communication system; and
a portable set disconnectable from the satellite transceiver
and including
a terrestrial transmission/reception circuit for
transmitting and receiving signals through a terrestrial wireless
communication system,
a signal input/output circuit for inputting signals from the
user and for outputting signals to the user, and
a connection controller and switching means for selectively
connecting the signal input/output circuit to one of the
satellite transceiver and terrestrial transmission/reception
circuits when said portable set is connected to said satellite
transceiver and for connecting said signal input/output circuit
to said terrestrial transmission/reception circuit when said
portable set is disconnected from said satellite transceiver.

20. A mobile communication terminal equipment as defined in
claim 19,

wherein said satellite transceiver further includes
satellite control means for controlling the signal
transmission/reception at the satellite transmission/reception
circuit,

*Duplicate - Do not enter
Doesn't comply w/ § 1.173(b)*

wherein said portable set further includes terrestrial control means for controlling the signal transmission/reception at the terrestrial transmission/reception circuit, and

wherein said signal input/output circuit is controlled by the satellite control means when the satellite transmission/reception circuit is connected to the signal input/output circuit, and controlled by the terrestrial control means when the terrestrial transmission/reception circuit is connected to the signal input/output circuit.

21. A mobile communication terminal equipment as defined in claim 20,

wherein said connection controller includes command input means for inputting a user's command relating the operation of said switching means, and

wherein control signals are transmitted and received between the satellite control means, the terrestrial control means and the command input means, said control signals including information which is indicative at least one of the signal reception state of the satellite transmission/reception circuit, the signal reception state of the terrestrial transmission/reception circuit, the operational state of the switching means, and a command from the command input means.

22. A mobile communication terminal equipment as defined in claim 20,

wherein said connection controller includes command input means for inputting a user's command for changing over the switching means, the user's command from the command input means is inputted into the satellite control means and the satellite control means instructs the terrestrial control means the changing-over when the satellite transmission/reception circuit is connected to the signal input/output circuit, and inputted into the terrestrial control means when the terrestrial transmission/reception circuit is connected to the signal input/output circuit, and

wherein the terrestrial control means controls the switching means in response to an instruction by the satellite control means when the satellite transmission/reception circuit is connected to the signal input/output circuit, and controls the switching means in response to the user's command from the command input means when the terrestrial transmission/reception circuit is connected to the signal input/output circuit.

23. A mobile communication terminal equipment comprising:

a satellite transceiver including a satellite transmission/reception circuit for transmitting and receiving signals through a satellite wireless communication system; and

a portable set disconnectable from the satellite transceiver and including

a terrestrial transmission/reception circuit for transmitting and receiving signals through a terrestrial wireless communication system,

a signal input/output circuit for inputting signals from the user and for outputting signals to the user, and

a connection controller and switch for selectively connecting the signal input/output circuit to one of the satellite transceiver and terrestrial transmission/reception circuits when said portable set is connected to said satellite transceiver and for connecting said signal input/output circuit to said terrestrial transmission/reception circuit when said portable set is disconnected from said satellite transceiver.

24. A mobile communication terminal equipment as defined in claim 23,

wherein said satellite transceiver further includes a satellite controller for controlling the signal transmission/reception at the satellite transmission/reception circuit,

wherein said portable set further includes a terrestrial controller for controlling the signal transmission/reception at the terrestrial transmission/reception circuit, and

wherein said signal input/output circuit is controlled by the satellite controller when the satellite transmission/reception circuit is connected to the signal input/output circuit, and controlled by the terrestrial controller when the terrestrial transmission/reception circuit is connected to the signal input/output circuit.

25. A mobile communication terminal equipment as defined in claim 24,

wherein said connection controller includes command input means for inputting a user's command relating the operation of said switch, and

wherein control signals are transmitted and received between the satellite controller, the terrestrial controller and the command input means, said control signals including information which is indicative at least one of the signal reception state of the satellite transmission/reception circuit, the signal reception state of the terrestrial transmission/reception circuit, the operational state of the switch, and a command from the command input means.

26. A mobile communication terminal equipment as defined in claim 24,

wherein said connection controller includes command input means for inputting a user's command for changing over the switch, the user's command from the command input means is inputted into the satellite controller and the satellite controller instructs the terrestrial controller the changing-over when the satellite transmission/reception circuit is connected to the signal input/output circuit, and inputted into the terrestrial controller when the terrestrial transmission/reception circuit is connected to the signal input/output circuit, and

wherein the terrestrial controller controls the switch in response to an instruction by the satellite controller when the satellite transmission/reception circuit is connected to the signal input/output circuit, and controls the switch in response to the user's command from the command input means when the terrestrial transmission/reception circuit is connected to the signal input/output circuit.